

ADDITIONAL REMARKS

Specifically in regards to the present remarks, claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yao-Joe Yang et al. via the 1997 IEEE International Conference; entitled “Effect of air dampening on the dynamics of nonuniform deformations of micro-structures,” (referred to hereinafter as ‘Yao-Joe’). Yao-Joe is directed to the dynamics of air damping on microstructures and a methodology for determining macromodel parameters of compressible isothermal squeezed-film damping (CISQFD). Additionally, Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Jee; U.S. Patent No. 6,638,640. Jee is directed to multi-layered metal plates with excellent damping capacity having at least two metal plates where the upper metal plate is less than one fifth the thickness of the lower main plate. Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jee in view of Leonetti et al.; U.S. Patent No. 6,053,275. Leonetti is directed to acoustical absorber arrays.

Applicant respectfully traverses and requests reconsideration.

The presently amended claims overcome all rejections and references. First, the claims traverse Yao-Joe because amended claim 1 now includes the limitation of “a vibrating surface coupled to at least one of a vehicle, an aircraft, and a building.” Second, claims 1, 11, and 17 traverses Jee because Jee does not disclose or teach all relevant limitations found in amended claim 1. Finally, any combination of Yao-Joe with Jee, or Leonetti with Jee will be inappropriate because a person having ordinary skill in the art at the time of the invention would not predict a likelihood of success by combining Yao-Joe in light of Jee.

With respect to the first point, and as discussed in the prior reply, Yao-Joe does not disclose coupling the squeeze film damper to a vehicle, an aircraft, or a building. The Office

Action did not cite to Yao-Joe for this proposition and these elements are not found in Yao-Joe. Thus, for at least this reason amended claim 1 is allowable over Yao-Joe.

With respect to the second point, Jee does not teach or disclose all of the claimed features of amended claim 1. As discussed in the prior response, Jee is directed to stiff/rigid cover plates, specifically metal cover plates. The use of a rigid metal plate is well-known in the art, and is not analogous to a flexible cover plate. As prior art has shown, the characteristics of a rigid cover plate differs from the characteristics of a flexible cover plate. Thus, a person having ordinary skill in the art at the time of the invention would not consider the disclosure of a rigid plate as analogous to the presently claimed flexible plate. Thus, for at least this reason amended claim 1 is allowable over Jee. Further Claims, 1, 7, and 11 have been amended to include the limitation of “the gap between the substantially rigid planar base and the substantially planar flexible cover is less than 1×10^{-4} meters.” (Antecedent basis found in Para. 16, lines 8-10). Jee discloses a desirable distance “that the spacing between the main plate and the secondary plate is .01 mm – 3 mm, and more preferably .1 mm - .5 mm” (Jee Col. 2, lines 37-39). However, in the present invention the gap is on the order of micrometers; 1×10^{-6} . (Para. 16, lines 7-10). Specifically the smallest range even identified in Jee is 1×10^{-5} meters, whereas the micrometer range discussed in the present application is 1×10^{-6} meters. Thus, Jee teaches away from, and positively excludes, the present invention by disclosing that the size range of the gap **must be greater** than 1×10^{-5} meters, and **preferably greater** than 1×10^{-4} meters. Therefore, Jee is not directed to and does not disclose a squeeze film damper with a gap between the substantially planar base plate and the substantially planar flexible cover that is less than 1×10^{-4} meters. Further, the cited portions of Leonetti do not disclose an acoustical absorber array with an appropriate gap.

For at least the above stated reason, the claim is believed to be patentable over Jee, and Claims 11 and 17 are believed patentable over Jee, in light of Leonetti.

Finally, with respect to the third point, any combination of Yao-Joe and Jee or Leonetti and Jee is inappropriate because there would be no likelihood of success by combining devices with incompatible structure. As discussed in the prior reply, and above, Jee is directed to rigid cover plates, whereas Yao-Jee is specifically investigating the properties of flexible plates and Leonetti is directed to acoustical array absorbers. For at least this reason, there would not be expectation of a likelihood of successful combining these two disclosures. Further, Jee is not directed to a squeeze film damper in the proper gap size range between the base and the cover plate. Jee discloses a desirable distance “that the spacing between the main plate and the secondary plate is .01 mm – 3 mm, and more preferably .1 mm - .5 mm” (Jee Col. 2, lines 37-39). However, in the present invention the gap is on the order of micrometers; 1×10^{-6} . (Para. 16, lines 7-10). Specifically the smallest range even identified in Jee is 1×10^{-5} meters, whereas the micrometer range discussed in the present application is 1×10^{-6} meters. Thus, Jee teaches away from, and positively excludes, the present invention by disclosing that the size range of the gap **must be greater** than 1×10^{-5} meters, and **preferably greater** than 1×10^{-4} meters. A person having ordinary skill in the art at the time of the invention would not expect to have success combining the theoretical derivations found in Yao-Joe, or acoustical array absorber found in Leonetti with the practical application of a squeeze film damper that is in the wrong size range. For at least the above stated reasons, Claim 1 cannot be anticipated by a combination of Yao-Joe and Jee or Claims 11 and 17 by Leonetti and Jee.

In light of the foregoing comments, Applicant respectfully submits that claim 1 is believed to be allowable as discussed herein. In conclusion, the Applicant respectfully submits

that the application is in condition for allowance and requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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